Star and Planet Formation through the WorldWide Telescope

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free download: worldwidetelescope.org

WorldWide Telescope is a Universe Information System, presented as a browser for the sky.

WorldWide Telescope offers an unparalleled view of the world's store of online astronomical data. This free software weaves astronomical images from all wavelengths into an interface that resembles their natural context—the Sky—while offering deep opportunities to teach and learn the science behind the images.

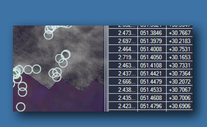
How can WWT be helpful in Research?

ADS & ADS Labs connectivity

find publications in area of interest directly from the FinderScope; view regions returned in ADS Labs search in WWT with one-click

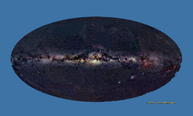
SIMBAD connectivity

find data in your area of interest directly from the FinderScope



Add and overlay your own images and catalogs

in FITS, ASCII, JPEG or XLS formats



Full-sky, and high-res views, at many wavelengths

DSS, SFD, 2MASS, GLIMPSE, MIPSGAL, WISE, HST, VLA, ROSAT, Spitzer, Chandra, & >40 more

VO-compatibility, VO-searching

SAMP-compatibility: live links to TOPCAT, Aladin & ds9

How can WWT be helpful in Education?

WWT Ambassadors

WorldWide Telescope Ambassadors are PhD-level scientists--like you!--who use WWT to teach science in school, science fair, and other community settings. Contact us to sign up or learn more!

wwtambassadors.org

Tours

Within WWT, anyone can create a scripted path through the program to "talk about" celestial phenomena with others. Tour files can be created and exchanged just like PPT files.

Listing of WWT Tours

Modular Learning

New efforts like edX offer opportunities to create and "massively" distribute educational materials online. Link here shows a sample learning module based on a WWT Tour created in a graduate ISM course at Harvard.

sample module on ISM bubbles, H. Chen

Labs

Research shows that combined "virtual" and physical experiences enhance learning. WWT can show context and scales that traditional labs cannot show on their own.

abstract of NSF grant

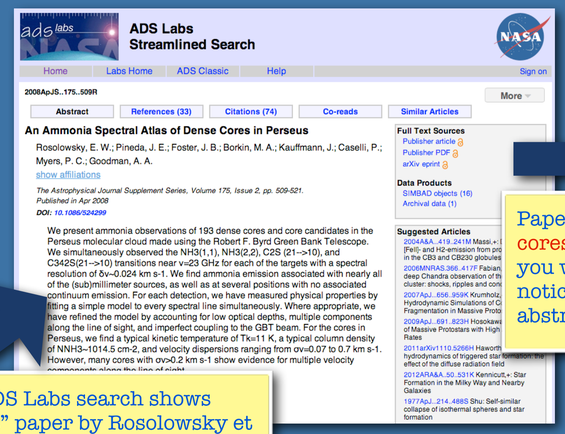
WWT runs on Mac or PC in a web browser, or in Windows, as a standalone application. It also runs as a web API using any operating system.

The software is free for non-commerical use.

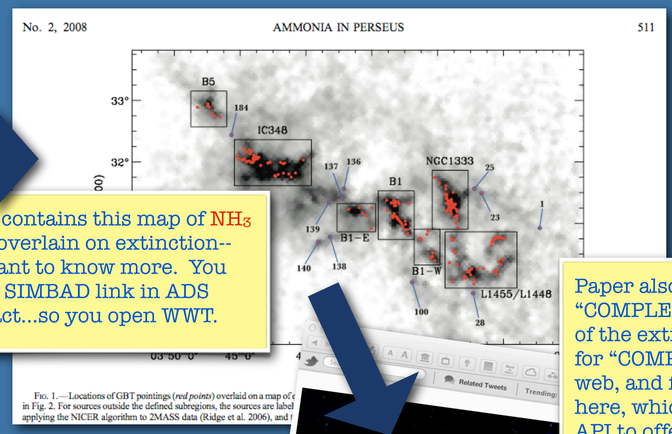
Star-Formation, seen in WWT

For Example...consider an ADS Labs Search for "Ammonia in Perseus"

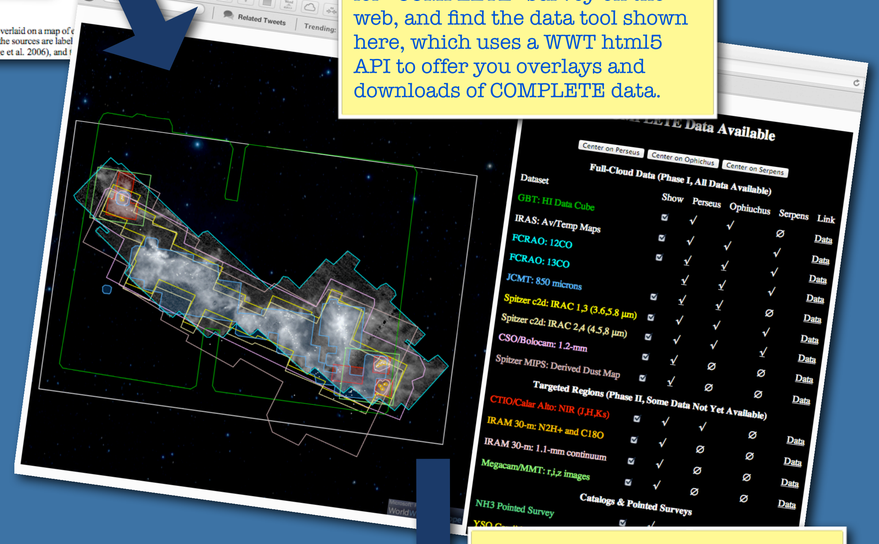
ADS Labs search shows "Atlas" paper by Rosolowsky et al. to be most relevant...click gives abstract



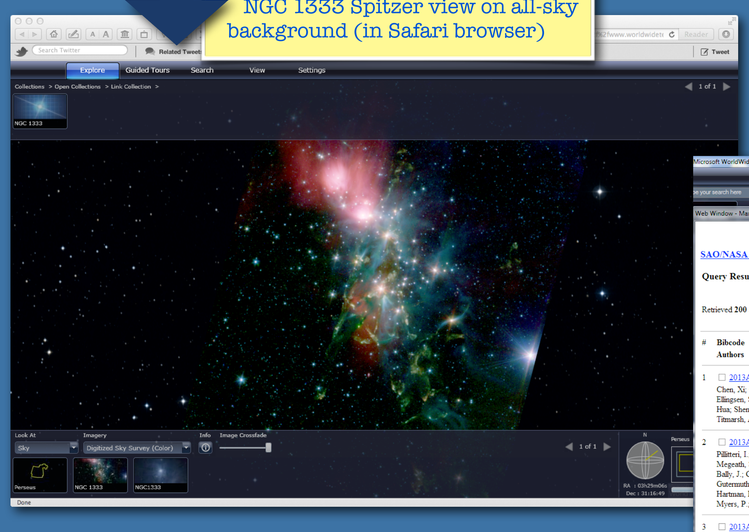
Paper contains this map of NH_3 cores overlain on extinction--you want to know more. You notice SIMBAD link in ADS abstract...so you open WWT.



Paper also mentions the "COMPLETE" survey as the source of the extinction map. You search for "COMPLETE" survey on the web, and find the data tool shown here, which uses a WWT html5 API to offer you overlays and downloads of COMPLETE data.

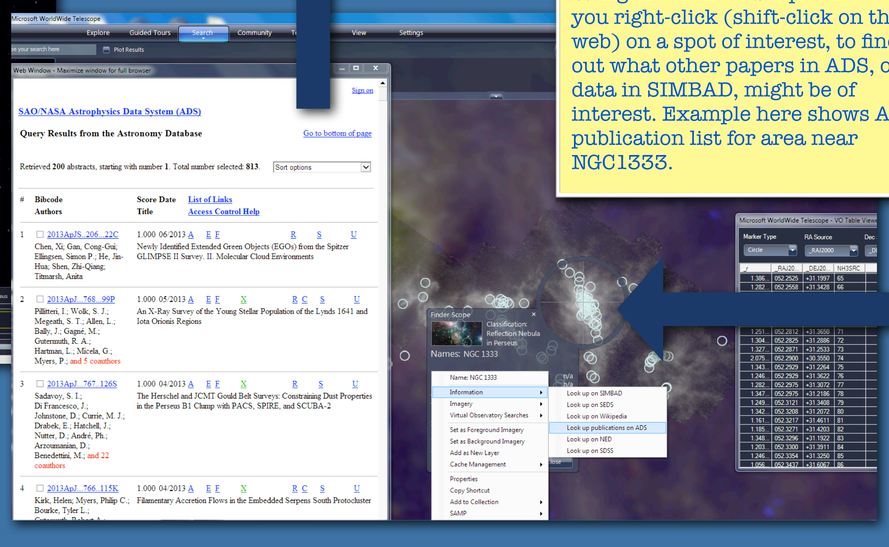


ADS Labs link offers contextual view of most commonly mentioned regions, example here shows NGC 1333 Spitzer view on all-sky background (in Safari browser)

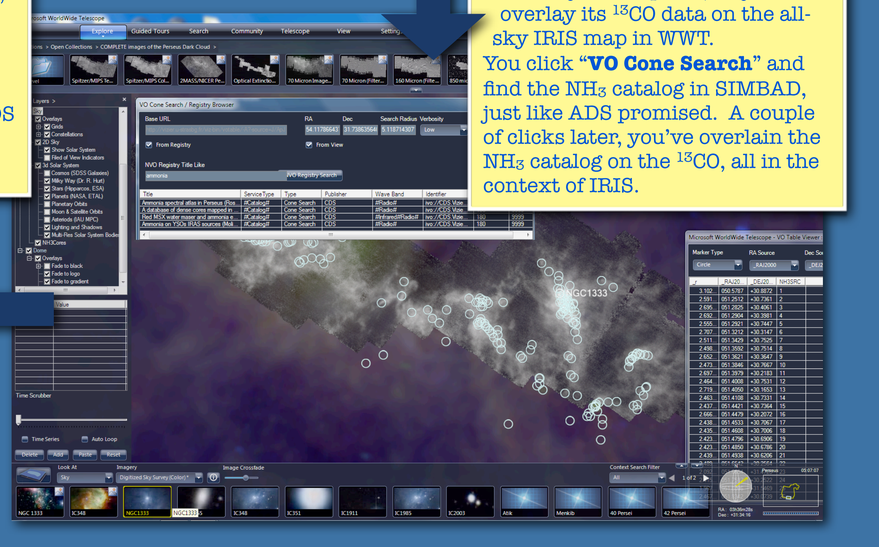


From this point, you could return to a similar "ADS-like" starting point with any of these other publications. But, it's important to realize that this "example" could have started at any point along the arrow-led chain shown. WWT is like a browser--no linearity of research path is needed!

Using the "Finder Scope" in WWT, you right-click (shift-click on the web) on a spot of interest, to find out what other papers in ADS, or data in SIMBAD, might be of interest. Example here shows ADS publication list for area near NGC1333.



Now, you have the COMPLETE data at your disposal, so you overlay its ^{13}CO data on the all-sky IRIS map in WWT.
You click "**VO Cone Search**" and find the NH_3 catalog in SIMBAD, just like ADS promised. A couple of clicks later, you've overlain the NH_3 catalog on the ^{13}CO, all in the context of IRIS.



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